

# Readiness in Technical Base and Facilities

## Mission Supporting Goals and Objectives

**Readiness in Technical Base and Facilities (RTBF)** provides the physical and operational infrastructure at the national laboratories, the Nevada Test Site, production sites and other DP sites required to conduct the scientific, technical, and manufacturing activities of the Stockpile Stewardship program. The RTBF mission is to ensure that the sites comprising the weapons complex are implementing the technologies and methods necessary to make construction, operation, and maintenance of DP facilities safe, secure, reliable and cost effective and that the right facilities and infrastructure are in place to manufacture and certify the 21<sup>st</sup> century nuclear weapons stockpile. Unlike Campaigns, most of this area does not have a defined end-state since it is an ongoing mission.

### RTBF Goals and FY 1999 - FY 2001 Performance Measures

Readiness in Technical Base and Facilities is broken into the following seven subcategories: Operations of Facilities, Program Readiness, Special Projects, Material Recycle and Recovery, Containers, Storage, and Advanced Simulation and Computing. The Department is still reviewing the budget structure changes associated with RTBF and may offer revisions as a technical amendment to the Weapons Activities budget request.

| Goals   | FY 1999 - FY 2001 Performance Measures  |
|---|---|
| <b>Operations of Facilities</b> is defined as DP's share of the cost to operate and maintain "DP-owned" programmatic facilities in a "warm stand-by" mode. "DP-owned" facilities primarily support campaigns and DSW and are usually over 50% funded by DP budget. "Warm standby" is a state of readiness at which each facility is prepared to execute programmatic tasks identified in the campaigns and DSW. This category includes DP's share of the cost of all structures, equipment, systems, materials, procedures and personnel necessary to provide program sponsors with a facility that is safe, secure, reliable and "ready for operations." | <p>Operate facilities in a safe, secure, reliable, and cost-effective manner.</p> <p>Short Pulse Spallation Source Accelerator enhancement complete by June 2001.</p> <p>Begin ramp up of operations of the Optical Assembly Building of the National Ignition Facility for preparation of clean optical assemblies.</p> <p>Operation of NTS facilities to support laboratory experiments for Stockpile Stewardship program.</p> <p>Rapid Reactivation activities for reservoir assemblies at KCP will be fully operational to support SLEP.</p> <p>Full Operation of the Beryllium Technology Facility at LANL to support SLEP.</p> <p>Expansion of the Neutron Generator Production Facility to support Rapid Reactivation activities at SNL for authorization/readiness reviews.</p> <p>Rapid Reactivation activities will be fully operational for neutron tube target production at LANL to support SLEP.</p> <p>Complete Facilities Capability Assurance Program at Pantex.</p> |

|  |  |
|--|--|
| <b>Program Readiness</b> includes activities that support more than one facility, campaign, or DSW activity, but are essential to achieving the program's objectives. The activities may vary from site to site due to the inherent differences in site activities and organizational structure. An example of a Program Readiness activity would be inertial fusion target fabrication in support of weapons experiments.   | Meet target fabrication requirements of the Stockpile Stewardship program; sitewide EIS update for NV.   |
| <b>Special Projects</b> includes activities which require special control or visibility or do not fit easily into other budget categories.   | Payment to Northern New Mexico Educational Foundation, support for Los Alamos School District.   |
| <b>Material Recycle &amp; Recovery</b> includes the recycle and recovery of plutonium, enriched uranium, and tritium from fabrication and assembly operations, limited life components, and dismantlement of weapons and components. Involves the process of recycling and purifying the above materials to meet specifications for safe, secure, and environmentally acceptable storage, including meeting the directive schedule for tritium reservoir refills.  | Recover and recycle material from fabrication and assembly operations, limited life components, and dismantlement/disposal of weapons and weapon components.<br><br>Support DNFSB recommendation 94-1 at LANL. |
| <b>Containers</b> includes research and development, design, recertification and maintenance, off-site transportation certification of component containers in accordance with Federal regulations, off-site transportation authorization of non-certifiable nuclear materials transportation configuration; test and evaluation, production/procurement, fielding and maintenance, and decontamination and disposal to provide adequate quantities of containers to support the nuclear weapons mission (transportation and storage). | Timely recertification and maintenance of transportation and storage containers.   |
| <b>Storage</b> provides for the cost of storage of weapons material and components. Does not include the cost of temporary storage of materials awaiting processing, staging for dismantlement, or any other interim storage.  | Store weapons and weapon components for the foreseeable future.  |
| <b>Advanced Simulation &amp; Computing</b> provides the computational infrastructure necessary to support Stockpile Stewardship programs. This category includes: Integrated Computing Systems (platforms, networks and their operation); the Visual Interactive Environment for Weapon Simulation (VIEWS); and the traditional Accelerated Strategic Computing Initiative & Stockpile Computing strategies including Problem Solving Environment; DisCom2; PathForward; One Program / Three Labs; University Partnerships.            | Install 10 TeraOps platform and transition to full production operation, while acquiring 30 TeraOps platform and installing initial configuration.   |

## Funding Schedules

(dollars in thousands)

### New Structure:

|   | FY 1999   | FY 2000 <sup>a</sup> | FY 2001   | \$ Change | % Change |
|---|-----------|----------------------|-----------|-----------|----------|
| Readiness in Technical Base and Facilities                  |           |                      |           |           |          |
| Operations of Facilities . . . . .                          | 1,286,979 | 1,320,478            | 1,313,432 | -7,046    | -0.5%    |
| Program Readiness . . . . .                                 | 92,063    | 62,509               | 75,800    | 13,291    | 21.3%    |
| Special Projects . . . . .                                  | 24,711    | 50,817               | 48,297    | -2,520    | -5.0%    |
| Material Recycle & Recovery . . . . .                       | 17,410    | 18,649               | 22,018    | 3,369     | 18.1%    |
| Containers . . . . .  | 14,127    | 4,833                | 7,876     | 3,043     | 63.0%    |
| Storage . . . . .   | 19,816    | 15,627               | 9,075     | -6,552    | -41.9%   |
| Advanced Simulation and Computing . . .                     | 300,564   | 397,075              | 477,075   | 80,000    | 20.1%    |
| Total, Readiness in Technical Base and Facilities . . . . . | 1,755,670 | 1,869,988            | 1,953,573 | 83,585    | 4.5%     |
| PY Work Conducted in FY 1999 . . . . .                      | 28,558    | 0                    | 0         | 0         | 0.0%     |
| Total, Readiness in Technical Base and Facilities . . . . . | 1,784,228 | 1,869,988            | 1,953,573 | 83,585    | 4.5%     |

(dollars in thousands)

### Old Structure:

|   | FY 1999   | FY 2000   | FY 2001 |
|---|-----------|-----------|---------|
| Readiness in Technical Base and Facilities                  |           |           |         |
| Stockpile Stewardship . . . . .                             | 884,642   | 975,895   |         |
| Stockpile Management . . . . .                              | 861,028   | 894,093   |         |
| Program Direction . . . . .                                 | 10,000    | 0         |         |
| PY Work conducted in FY 1999 . . . . .                      | 28,558    | 0         |         |
| Total, Readiness in Technical Base and Facilities . . . . . | 1,784,228 | 1,869,988 | 0       |

## Detailed Program Justification

<sup>a</sup> FY 2000 includes \$41,040,000 in Operations of Facilities associated with the Supplemental Budget Request - \$1,540,000 for Kansas City and \$39,500,000 for Y-12. Details can be found in the Department's FY 2000 Supplemental Request.

**Readiness in Technical Base and Facilities**

(dollars in thousands)

|   | FY 1999 | FY 2000 | FY 2001 |
|---|---------|---------|---------|
| <b>Operations of Facilities</b>   |         |         |         |
| # National Ignition Facility (NIF) Operations at Lawrence Livermore National Laboratory (LLNL) includes continuing the ramp-up of operations activities in the Optics Assembly Building and other support facilities at the NIF, training of NIF operators, and inventory maintenance to support operations activities . . . . .  | 25,300  | 35,586  | 53,400  |
| # NIF Program Facilities and Infrastructure Buildup Activities at LLNL include performance support and risk mitigation R&D for laser components, optics and laser systems; and conversion of support facilities from Nova capabilities to NIF requirements . . . . .  | 55,900  | 48,900  | 47,400  |
| # DP's share of the operations of Superblock at LLNL, high explosives, physical data research, and engineering test facilities . . . . .  | 45,322  | 51,021  | 40,727  |
| # Los Alamos National Lab (LANL) includes operation costs for physics facilities such as: first axis of the Dual-Axis Radiographic Hydro Test facility (DARHT); DP's share of LANSCE operations, high explosives, firing, experimental facilities; operation costs for the Los Alamos Criticality Experimental Facility (LACEF) in support of Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 97-2 . . . . . | 88,282  | 56,631  | 75,367  |
| # LANL facility operation costs for engineering and ICF facilities; general plant projects, institutional capital equipment, and waste management activities . . . . .  | 80,004  | 77,976  | 79,084  |
| # LANL operations for Technical Area 55 . . . . .   | 68,238  | 63,532  | 65,434  |
| # LANL operations for Chemistry Metallurgy Research facility, Weapons Engineering Tritium Facility, Technical Area 18, and SIGMA . . . . .  | 57,792  | 60,177  | 59,637  |
| # Sandia National Laboratories (SNL) includes DP's share of the operations of the Microelectronics Development Lab, Compound Semiconductor Lab, Tonapah Test Range, Area III verification & validation facilities, Area IV and V reactor and accelerator facilities, pulsed power facilities . .  | 51,100  | 60,489  | 61,208  |

## Readiness in Technical Base and Facilities

(dollars in thousands)

|  | FY 1999 | FY 2000 | FY 2001 |
|--|---------|---------|---------|
| # SNL activities supporting operation of the neutron generator production facility (Building 870) . . . . .  | 88,330  | 89,569  | 76,527  |
| # SNL institutional capital equipment, general plant projects; and waste management activities . . . . .   | 52,794  | 43,422  | 45,140  |
| # Nevada Test Site includes DP's share of the operations of the Device Assembly Facility, Big Explosives Experiment Facility, U1a Experimental Complex, Joint Actinide Shock Physics Experimental Research Facility, general plant projects, and other NTS support facilities . . . . .  | 56,140  | 58,803  | 58,400  |
| # Y-12 Plant includes operation of facilities used for the production of materials contained in secondaries. This includes the following buildings: 9201-1, 9201-5, 9201-5N, 9202, 9204-2, 9204-2E, 9204-4, 9206, 9212, 9215, 9720-5, 9995, 9998. These costs are split between infrastructure costs and site operations costs:  |         |         |         |
| Infrastructure costs include maintenance, project support, facility startup, facility standby, site planning and project management, capital equipment and general plant projects  | 84,595  | 91,406  | 67,324  |
| Y-12 Site Operations provides for environmental, safety, health programs, and waste management . . . . .   | 47,897  | 47,175  | 53,818  |
| Y-12 Site Operations also provides for the provision of site utilities . . . . .   | 33,814  | 33,919  | 35,646  |
| Y-12 Safeguards and Security programs ensure the security of the Y-12 plant, personnel and operations . . . . .  | 20,100  | 23,013  | 24,870  |
| Y-12 management and administration (M&A) provides for those activities associated with general M&A for FY-12, including information services, human resources, chief financial officer, procurement, legal support, quality assurance, executive direction and management fees . . . . .   | 52,632  | 52,707  | 51,929  |
| # Savannah River Site includes operation of facilities required to provide tritium and non-tritium loaded reservoirs to meet the requirements of the Nuclear Weapons Stockpile Memorandum, to conduct reservoir surveillance operations, gas transfer system testing, and to manage existing tritium inventories. These activities are carried out in the following buildings: 232, 233, 234 and 238 . . . . . | 61,531  | 60,586  | 65,980  |

## Readiness in Technical Base and Facilities

(dollars in thousands)

|   | FY 1999 | FY 2000 | FY 2001 |
|---|---------|---------|---------|
| # Kansas City Plant includes operations of facilities to manufacture and procure nonnuclear components for nuclear weapons, including electrical, electronic, electromechanical, mechanical, plastic, and nonfissionable metal. These costs are split between infrastructure costs and site operations costs:   |         |         |         |
| Infrastructure costs include maintenance, project support, facility startup, facility standby, site planning and project management, capital equipment and general plant projects   | 37,327  | 42,199  | 39,808  |
| Kansas City Site Operations provides for environmental, safety, health programs, waste management, and the provision of site utilities . . . . .  | 20,139  | 20,110  | 20,580  |
| Kansas City Safeguards and Security programs ensure the security of the Kansas City plant, personnel and operations   | 6,380   | 7,582   | 8,107   |
| Kansas City management and administration (M&A) provides for those activities associated with general M&A for FY-12, including information services, human resources, chief financial officer, procurement, legal support, quality assurance, executive direction and management fees . . . . .   | 68,877  | 77,030  | 73,997  |
| # Pantex Plant facility operations include the fabrication of chemical explosives; development work in support of the design laboratory, pit storage; and nuclear weapons assembly, disassembly, testing, quality assurance, repair, retirement, and disposal. The bulk of the Pantex operations are located in Zone 4, Zone 11, and Zone 12. These costs are split between infrastructure costs and site operations costs: |         |         |         |
| Infrastructure costs include maintenance, project support, facility startup, facility standby, site planning and project management, capital equipment and general plant projects.  | 42,705  | 39,893  | 29,141  |
| Pantex Site Operations provides for environmental, safety, health programs, waste management, and the provision of site utilities . . . . .   | 21,996  | 24,051  | 24,048  |
| Pantex Safeguards and Security programs ensure the security of the Pantex plant, personnel and operations . . .   | 26,441  | 31,677  | 34,836  |

**Readiness in Technical Base and Facilities**

(dollars in thousands)

|   | FY 1999   | FY 2000   | FY 2001   |
|---|-----------|-----------|-----------|
| Pantex management and administration (M&A) provides for those activities associated with general M&A for FY-12, including information services, human resources, chief financial officer, procurement, legal support, quality assurance, executive direction and management fees . . . . .  | 48,777    | 51,099    | 50,546    |
| # All Other DP-Funded Facilities includes funding for non-M&O program facilities, such as the NIKE Laser at the Naval Research Laboratory, and the OMEGA Laser at the Laboratory for Laser Energetics operated by the University of Rochester and the Operations Offices for special projects, one-time or complex wide efforts that do not fit easily into other budget categories or require special control or visibility; examples are use-control studies; Information Technology upgrades supporting SLEP; aviation support for the weapons complex . . . . . | 44,566    | 71,925    | 70,478    |
| Total, Operations of Facilities   | 1,286,979 | 1,320,478 | 1,313,432 |

**Program Readiness**

|  |        |        |        |
|--|--------|--------|--------|
| # Support for activities that support more than one facility, campaign, or DSW activity, but are essential to achieving the program's objectives. Activities include strategic engagement and awareness exercises; knowledge preservation and archiving; logistical support to the labs' experimental programs; services from other federal agencies; and the Federal Facility Agreement at the Nevada Test Site; and ICF target fabrication support . . . . . | 92,063 | 62,509 | 75,800 |
|--|--------|--------|--------|

**Special Projects**

|   |       |       |       |
|---|-------|-------|-------|
| # Educational activities supports science and math education programs mainly at the three weapons laboratories . . . . .  | 9,000 | 4,529 | 6,000 |
| # Los Alamos County Schools enhances teacher salaries and education enrichment activities for the Los Alamos County School District . . . . .   | 7,000 | 8,000 | 8,000 |
| # New Mexico Educational Enrichment Foundation provides funds to endow the New Mexico Education Enrichment Foundation. Per congressional direction, the Department will provide \$25 million to fully endow the Foundation by FY 2002 . . . . . | 3,000 | 6,000 | 3,000 |

**Readiness in Technical Base and Facilities**

(dollars in thousands)

|   | FY 1999 | FY 2000 | FY 2001 |
|---|---------|---------|---------|
| # Security investigations for contractors at national laboratories and Nevada Test Site . . . . .   | 4,786   | 6,112   | 6,112   |
| # Criticality experiments in support of DNFSB Recommendation 97-2 . . . . .   | 925     | 950     | 950     |
| # Institutional infrastructure requirements; for example, NEPA actions, condition assessment surveys, and the R&D Tracking System . . . . .   | 0       | 11,400  | 11,400  |
| # Engineering and technical support for RTBF activities; for example, independent reviews such as the 30-Day Study and the Chiles Commission; resolution of findings, issues, and concerns from external independent reviews; Federal Laboratory Consortium with NIST, and independent cost estimating requirements . . . . . | 0       | 13,826  | 12,835  |
| Total, Special Projects . . . . .   | 24,711  | 50,817  | 48,297  |

**Material Recycle and Recovery**

|  |        |        |        |
|--|--------|--------|--------|
| # Supports the development and implementation of new processes or improvements to existing processes for fabrication and recovery operations for plutonium and uranium, and for material stabilization, conversion, and storage; recycle and recovery of material from fabrication and assembly operations, limited life components, and dismantlement/disposal of weapons and components; supports DNFSB recommendation 94-1 at LANL related to the stabilization of uranium and plutonium residues . . . . | 17,410 | 18,649 | 22,018 |
|--|--------|--------|--------|

**Containers**

|   |        |       |       |
|---|--------|-------|-------|
| # Includes research, development, recertification and maintenance and production/procurement of transportation and storage containers . . . . . | 14,127 | 4,833 | 7,876 |
|---|--------|-------|-------|

**Storage**

|   |        |        |       |
|---|--------|--------|-------|
| # Includes cost of receipt, storage and inventory management of nuclear materials, non-nuclear material, highly enriched uranium, enriched lithium, and weapon components from dismantled weapons. This function is performed at the Y-12 and Pantex Plants . . . . . | 19,816 | 15,627 | 9,075 |
|---|--------|--------|-------|



## Readiness in Technical Base and Facilities

(dollars in thousands)

|   | FY 1999 | FY 2000 | FY 2001 |
|---|---------|---------|---------|
| <b>Advanced Simulation &amp; Computing (ASCI Component)</b>   |         |         |         |
| # Ongoing computer center operations and evolution of existing simulation capability necessary for maintaining the core computational infrastructure . . . . .  | 63,306  | 40,089  | 68,600  |
| # Acquisition of computer platforms including final deployment of 10 TeraOps supercomputer in FY 2000 and initial delivery of 30 TeraOps system in FY 2001 . . . . .  | 94,367  | 152,393 | 127,800 |
| # Pathforward activities within industrial partnerships developing key interconnect, storage, and software technologies necessary to accelerate the development of balanced 30 to 100 TeraOps computer systems . . . . .  | 17,825  | 18,611  | 25,000  |
| # Through Distance and Distributed Computing (DisCom <sup>2</sup> ) strategy efforts, deploy an enterprise-wide integrated computing architecture capable of supporting application milestone development and execution at a remote site for the first time . . . . .   | 25,951  | 39,328  | 48,000  |
| # Problem Solving Environment projects include: ASCI Software Development Environment, a common software environment for scalable simulation development across ASCI platforms; Data Transfer and Storage, for improved tera-scale code execution and data exploration; Distributed Systems, will provide secure networking and security infrastructure; and Management and Integration for integrating the improvements for multi-gigabyte parallel data transfer and multi-petabyte archival mass storage . . . .   | 32,425  | 39,860  | 40,215  |
| # Visual Interactive Environment for Weapon Simulation (VIEWS) will integrate leading edge visualization and data management and developing technologies that contribute to the "see and understand" capabilities required to view, manipulate, and analyze the massive amounts of data generated by the 3D simulation codes in ever increasing levels of fidelity through Data Visualization Corridors. VIEWS efforts provide the data analysis and visualization infrastructure needed to support the large scale data analysis tasks for "see and understand" capabilities for the simulation program; VIEWS capabilities have been shown to be essential to applications and must constantly increase in order to support the advances in platforms and codes . | 40,045  | 66,640  | 111,785 |

**Readiness in Technical Base and Facilities**

(dollars in thousands)

|  | FY 1999   | FY 2000   | FY 2001   |
|--|-----------|-----------|-----------|
| # Collaborations with University Partnerships, Alliances, Institutes and Fellowships to leverage other national initiatives, collaborations with multi-agency efforts, universities, and industry; and to attract top researchers in key disciplines to benefit the stewardship program. Funding for One Program/Three labs strategy and Supercomputing Conference also provides investment and leverage to the Simulation program . . . . . | 26,645    | 40,154    | 55,675    |
| Total, Advanced Simulation & Computing <sup>a</sup> . . . . .  | 300,564   | 397,075   | 477,075   |
| <b>PY Work Conducted in FY 1999</b> . . . . .  | 28,558    |           |           |
| <b>Total, Readiness in Technical Base and Facilities</b> . . . . .   | 1,784,228 | 1,869,988 | 1,953,573 |

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<sup>a</sup> The Advanced Simulation and Computing totals for the years shown represents Defense Programs contribution to the High Performance Computing & Communications (HPCC) crosscut for DOE.

# High Performance Computing and Communications Initiative (HPCC)

## Crosscut Estimates

(\$ in Millions)

| HPCC Crosscut Category  | Advanced Simulation and Computing Subaccounts | FY 1999      | FY 2000      | FY 2001 Congressional Request |
|---|---|--------------|--------------|-------------------------------|
| Large Scale Networking . . . . .  | DisCom  | 26.0         | 39.3         | 48.0                          |
| High End Computing . . . . .  | PIP, Pathforward                              | 112.2        | 171.0        | 152.8                         |
| High End Computations and Infrastructure . . . . .                                    | IEWS and Facility Operations                  | 103.4        | 106.7        | 180.4                         |
| High Confidence Systems . . . . .   |   | 0.0          | 0.0          | 0.0                           |
| Human Computer Interface & Information Management . . . . .                           |   | 0.0          | 0.0          | 0.0                           |
| Software Design and Productivity . . . . .  | Problem Solving Environments                  | 32.4         | 39.9         | 40.2                          |
| Socioeconomic and Workforce Implications of IT and IT Workforce Development . . . . . | Alliances and Institutes ;1 Program, 3 Labs   | 26.7         | 40.1         | 55.7                          |
| <b>Total, HPCC Crosscut</b>   |   | <b>300.7</b> | <b>397.1</b> | <b>477.1</b>                  |

The Advanced Simulation and Computing (ASC) subaccounts do not correlate directly with all HPCC crosscut category definitions. This table represents best judgement application of ASC subaccounts to HPCC crosscut categories. Last year's HPCC crosscut included all funding under Defense Programs' Accelerated Strategic Computing Initiative (ASCI) account. Further analysis indicates that operational aspects of ASCI are not properly identified as part of the HPCC crosscut.

## Explanation of Funding Changes from FY 2000 to FY 2001

|                                   |
|-----------------------------------|
| FY 2001<br>vs. FY 2000<br>(\$000) |
|-----------------------------------|

### Readiness in Technical Base and Facilities

#### Operations of Facilities

|   |   |         |
|---|---|---------|
| # | Increases at Lawrence Livermore National Laboratory for transition from activation and begin ramp up of operations of the Optical Assembly Building of the National Ignition Facility (NIF). This is in preparation for initial installation of clean optical assemblies in the NIF Laser Building. These increases are offset by decreases in operations costs of physics facilities . . . . .   | 6,020   |
| # | At Los Alamos National Laboratory, increased operations of first axis of DARHT; increased operating costs at LANSCE; increased maintenance costs due to a one-time reduction in FY 2000 to rebalance funding into the experimental program; increased operations costs for Technical Area 55 offset by minor decreases in other production facilities . . . . .   | 21,206  |
| # | Increase at Sandia National Laboratories supports the early microsystems development required for the enduring stockpile, the transition of microsystems technology from research and exploratory development to production-level activity, and the expansion of the infrastructure required for realization of WR-certified microsystems; and waste management activities. These increases are offset by decreases in costs of the production infrastructure . . . . .                 | -10,605 |
| # | Minor decreases in the cost of operations of facilities at the Nevada Test Site . . . .   | -403    |
| # | Oak Ridge Y-12 Facility decreases reflecting the ramp down of Enriched Uranium Operations-Process Based Restart . . . . .   | -14,633 |
| # | Increase at Savannah River Facilities is driven by support for the Stockpile Management Restructuring Initiative to begin the development of operating/maintenance/start-up procedures and a slight increase in overhead allocations consistent with the increase in Directed Stockpile Work . . . . .  | 5,394   |
| # | Reduction at Kansas City Plant reflects reduced maintenance and administrative support activities . . . . .   | -4,429  |
| # | Reduction at Pantex Plant reflects reduced project support for new and ongoing construction projects . . . . .  | -8,149  |
| # | All Other DP-Funded Facilities includes funding residing at Headquarters or the Operations Offices for the University of Rochester/Laboratory for Laser Energetics and the Naval Research Laboratory in the ICF program; Headquarters/Operations Office funding supports projects including pollution prevention, beryllium issues, aviation services, Pinellas Pension liabilities, systems integration, campaign analysis and development, and other miscellaneous projects . . . . . | -1,447  |

|                                   |
|-----------------------------------|
| FY 2001<br>vs. FY 2000<br>(\$000) |
|-----------------------------------|

## Readiness in Technical Base and Facilities

|                                       |        |
|---------------------------------------|--------|
| Total, Operations of Facilities ..... | -7,046 |
|---------------------------------------|--------|

## Program Readiness

|  |        |
|--|--------|
| # Activities attributable to the requested increase are: increased work at NV associated with the Federal Facility Agreement with the State of NV; making archived testing data more accessible to the public, and a planned NTS site Environmental Impact Study update in FY 2001 ..... | 13,291 |
|--|--------|

## Special Projects

|  |        |
|--|--------|
| # Continues support for Los Alamos County School District at the FY 2000 level; direct funding for the New Mexico Education Foundation is decreased by \$3 million; however, LANL will provide an additional \$6 million from overhead funds; other Education activities decreased by \$.9 million; other Special Projects continue at approximately the FY 2000 level ..... | -2,520 |
|--|--------|

## Material Recycle and Recovery

|   |       |
|---|-------|
| # The increase in funding is at the Y-12 Plant and provides for the operation of restarted processes for Enriched Uranium lithium recycle and recovery to process materials at a rate sufficient to support the Directed Stockpile Work ..... | 3,369 |
|---|-------|

## Containers

|  |       |
|--|-------|
| # The increased funding for containers is associated with the certification and surveillance of secondary and pit staging containers ..... | 3,043 |
|--|-------|

## Storage

|  |        |
|--|--------|
| # The decrease is associated with the transfer of surplus plutonium at the Pantex plant to the Office of Materials Disposition ..... | -6,552 |
|--|--------|

## Advanced Simulation and Computing

|   |         |
|---|---------|
| # Computer Operations expenses increase as the 10 TeraOps system is developed and delivered while operating expenses for all the 3 TeraOps systems continue ..... | 28,511  |
| # Platforms costs decrease from the FY 2000 level as final payments on the Blue Mountain and Blue Pacific systems are realized in FY 2000 .....                   | -24,593 |

|                                   |
|-----------------------------------|
| FY 2001<br>vs. FY 2000<br>(\$000) |
|-----------------------------------|

## Readiness in Technical Base and Facilities

|   |  |               |
|---|--|---------------|
| #   | PathForward activities increase is attributable to the initiation of several software packages efforts that will fill major gaps in available commercial software for ultrascale platforms . . . . .   | 6,389         |
| #   | Distance and Distributed Computing (DisCom <sup>2</sup> ) must scale up software development and network bandwidth substantially in order to enable tri-lab use of the 10 TeraOps platform by extremely demanding conditions . . . . .   | 8,672         |
| #   | Additional funding for the Problem Solving Environment strategy is requested to enable higher levels of quality controls on new and existing computer codes, enhanced levels of accessibility to the platforms, and result in efficiencies in the applications through faster code development and increased scalability to the platforms and networks . . . . .   | 1,994         |
| #   | Visual Interactive Environment for Weapons Simulation (VIEWS) increases are a result of integrating leading edge visualization and data management and developing technologies that contribute to the “see and understand” capabilities required to view, manipulate, and analyze massive amounts of data generated by the 3D simulation codes in ever increasing levels of fidelity through Data Visualization Corridors. In FY 2001, this integration is planned on a greater scale involving more sophisticated codes on platforms with increased technological capabilities based on demonstrated success. In addition, in FY 2001 VIEWS will do much of the work required to meet the FY 2002 milestone that specifies a 64 Megapixel display driven by a scalable rendering system demonstrated against data from one or more tri-lab weapons applications; that will require acquiring substantial new computing and display equipment as well as development of software to enable the use of scalable parallel technologies . . . . . | 45,145        |
| #   | Funding increases for Collaborations with University Partners, Alliances, Institutes and Fellowships are attributable to existing commitments and expansion of the program along with continued development of partnerships with best available expertise in academia to benefit the stewardship program . . . . .   | 13,882        |
| Total, Advanced Simulation and Computing . . . . .                                |  | 80,000        |
| <b>Total Funding Change, Readiness in Technical Base and Facilities . . . . .</b> |  | <b>83,585</b> |